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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,214	11/26/2003	Bruce Albrecht	ITW7510.073	1213

33647 7590 04/18/2006

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EXAMINER

SHARP, JEFFREY ANDREW

ART UNIT PAPER NUMBER

3677

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,214	<b>Applicant(s)</b> ALBRECHT ET AL.	
	<b>Examiner</b> Jeffrey Sharp	<b>Art Unit</b> 3677	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Claims***

- [1] Claims 1-29 are pending.

### ***New Grounds of Rejection Necessitated by Amendment***

#### ***Claim Rejections - 35 USC § 112***

- [2] The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- [3] Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 27, it appears there is no clear antecedent basis for "the means for connecting the welding stud". This claim has been treated on the merits as it is understood.

#### ***Claim Rejections - 35 USC § 102***

- [4] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

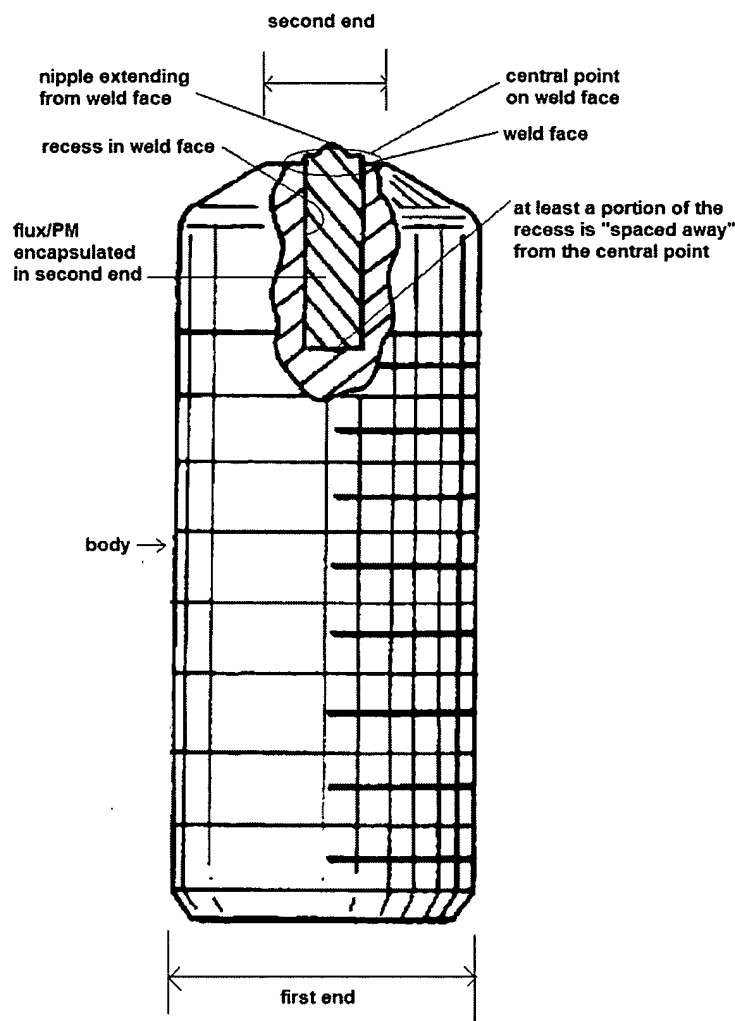
[5] Claims 1-3, 6, 18, 19, 23-25, 27(as understood), 28, and 29 are rejected under 35

U.S.C: 102(b) as being anticipated by Duffy et al. US-5,685,680.

In its broadest sense, and when each independent claim is taken into consideration alone, Duffy et al. illustrates each and every limitation of the aforementioned claims. In short, Duffy et al. teach a welding stud comprising a first end, second end, weld face, encapsulated flux/powdered metal, and a recess in the second end. For clarity, and to expedite prosecution, the examiner has illustrated the broadest reasonable interpretation of Duffy et al. below.

As for Claims 1-3 and 6, it is noted that Duffy et al. teach a central point, to which the recess is "*spaced (broadly) away from the central point*", since the recess bottom is axially "spaced away" from the central point:

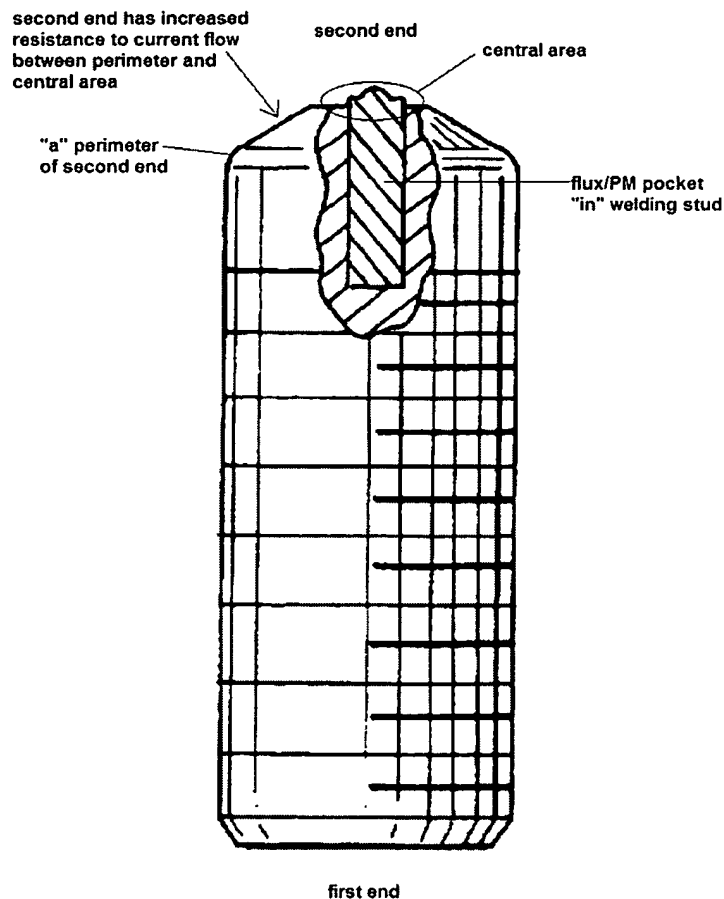
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The examiner does note that Duffy et al. fail to show or suggest a recess "*spaced radially away from the central point*".

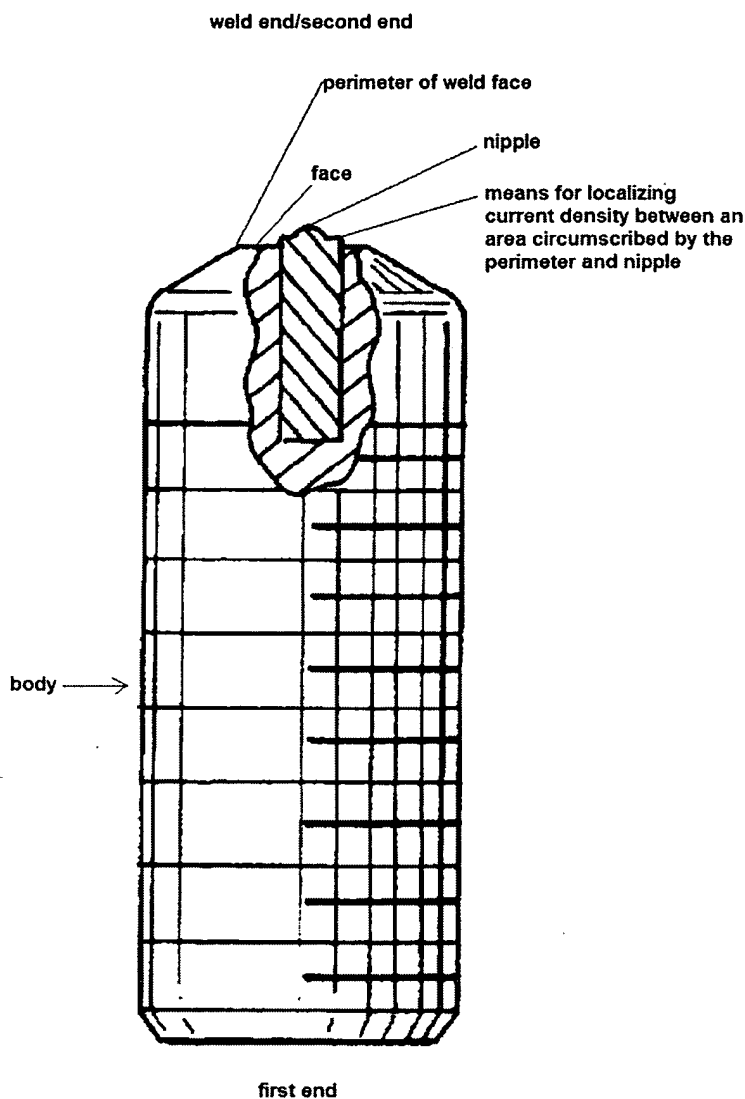
As for Claims 18, 19, 23, and 24, it is noted that Duffy et al. teach a second end having a central area, and "a" perimeter surrounding said second end. The area between the perimeter and central area has an increased resistance to current flow, as compared with a generally planar face. The welding stud has a flux/powdered metal pocket "in" it:

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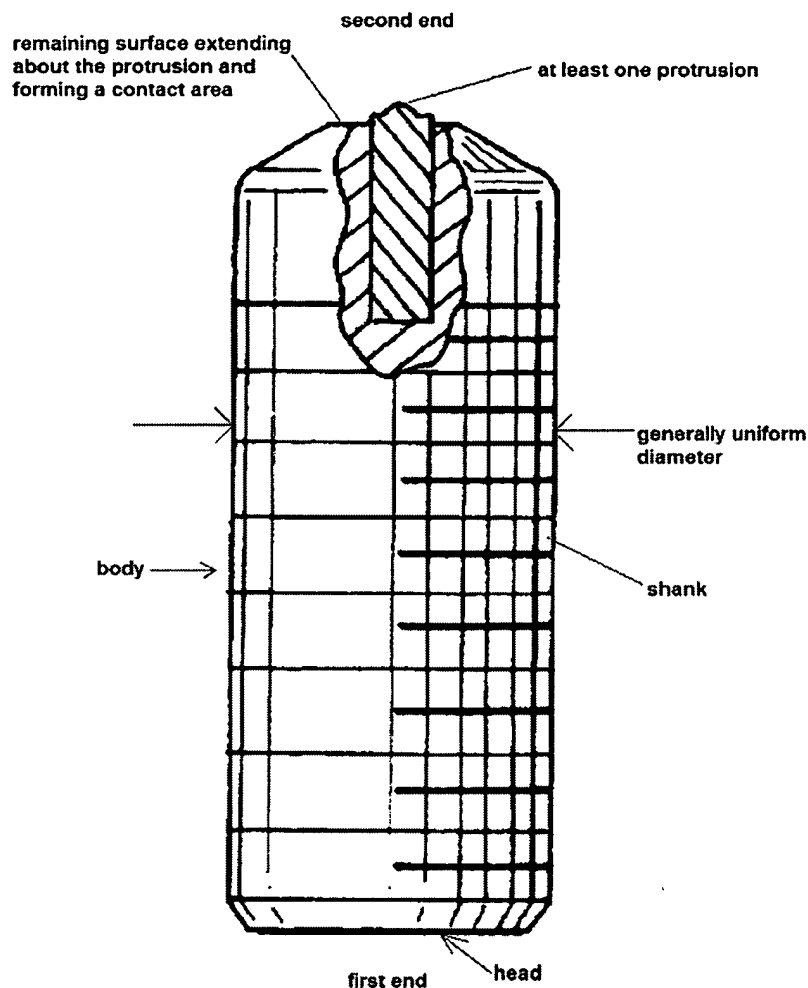


As for Claims 25, 27 (as understood), and 28, Duffy et al. teach a welding stud comprising a first end, body, and a weld face having a perimeter at a weld end, which is to be entirely consumed by a welding process (intended use), said weld end having a nipple proximate an axis of the body, and said welding stud further comprising a means for localizing current density between the perimeter and nipple:

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As for Claim 29, Duffy et al. show a body having what could broadly be construed as a head on a first end, a second end, a shank extending between the two, said first end being configured to engage a welding gun (shown clearly in Figure 4), said second end having at least one protrusion, and a remaining surface extending about the protrusion that is configured with a contact area decreased compared to a planar surface. Examiner notes that a (broad) "planar surface" is undefined, and thus may be open to having any area greater than the contact area, and that "head" is not limited to "radially extending head":



[6] Claims 1-3, 4, 8-13, and 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Enright US-2,788,233 (refer to Figures 5 and 6).

In short, and in its broadest reasonable sense, Enright teaches a welding stud comprising a first end (not labeled), second end (Figure 5) of reduced diameter to said first end, a body having a shank (10), and powdered metal flux (11) encapsulated in the welding stud. The second (i.e., "weld") end has a weld face that increases resistance to current, and further comprises a



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plurality of recesses (i.e., "grooves" 19) disposed concentrically about a center point/area of said second end.

As for claims 20-22, the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art. A comparison of the recited process with the prior art processes does NOT serve to resolve the issue concerning patentability of the product. *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974). Whether a product is patentable depends on whether it is known in the art or it is obvious, and is not governed by whether the process by which it is made is patentable. *In re Klug*, 333 F.2d 905, 142 USPQ 161 (CCPA 1964). In an ex parte case, product by process claims are not construed as being limited to the product formed by the specific process recited. *In re Hirao et al.*, 535 F.2d 67, 190 USPQ 15, *see footnote 3* (CCPA 1976).

[7] Claims 1-3, 4, 8-13, and 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Averstn US-2,823,297.

In short, and in its broadest reasonable sense, Averstn teaches a welding stud comprising a first end (not labeled), second end (Figures 2 and 4) of reduced diameter to said first end (due to convex shape), a body having a shank (1), and powdered metal flux (2) encapsulated in the

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welding stud. The second (i.e., "weld") end has a weld face that increases resistance to current, and further comprises a plurality of recesses (i.e., "grooves" 4,5) disposed concentrically about a center point/area of said second end.

[8] Claims 1-3, 6, 7, 18, 19, 23-25, 27 (as understood, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Rondeau et al. US-3760,143.

In short, and in its broadest reasonable sense, Rondeau et al. teaches a welding stud comprising a first end (16), second end (Figure 9) of reduced diameter to said first end (due to frustoconical shape), a body (14) having a shank, and powdered metal flux (28) encapsulated in the welding stud. The second (i.e., "weld") end has a weld face that increases resistance to current, and further comprises a recess (20) spaced (e.g., "axially") from a center point/area (82) of said second end.

As for claim 1, the examiner does note that Rondeau et al. fail to show or suggest a recess *"spaced radially away from the central point"*.

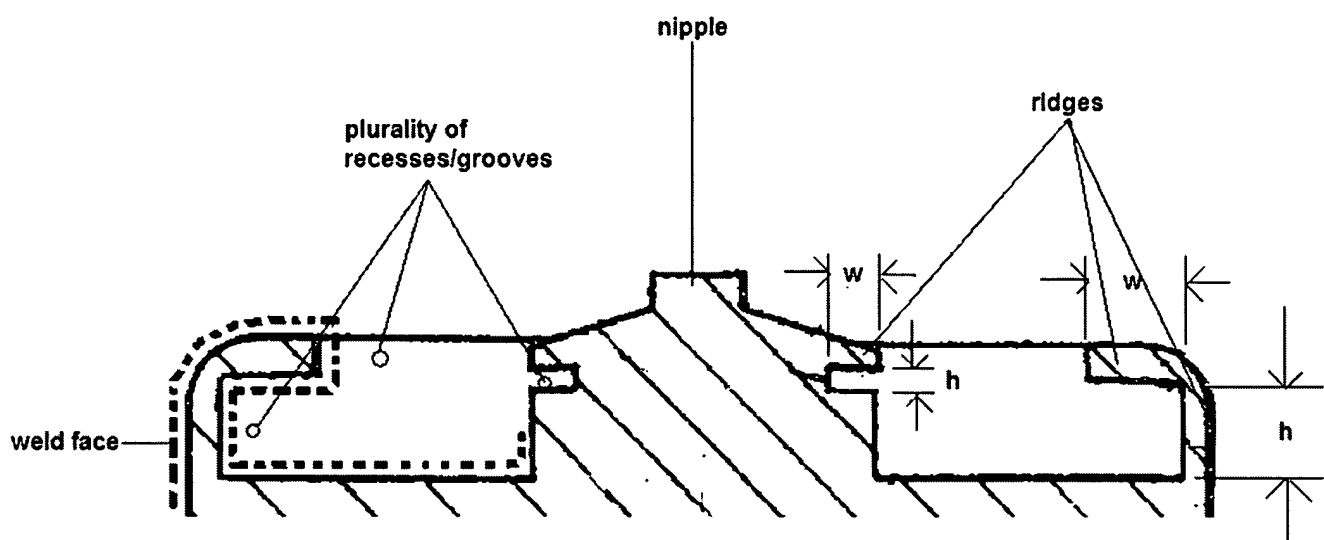
[9] Claims 1-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Logan US-3,253,115.

In short, and in its broadest reasonable sense, Logan teaches a welding stud comprising a first end (24) having a flange engagable with a welding gun, second end (Figure 2) of reduced diameter to said first end, a body (20) having a shank (22), and powdered metal flux (37) encapsulated in the welding stud. The second (i.e., "weld") end has a weld face that increases resistance to current, and further comprises a plurality of recesses/grooves (near 31, under 33,

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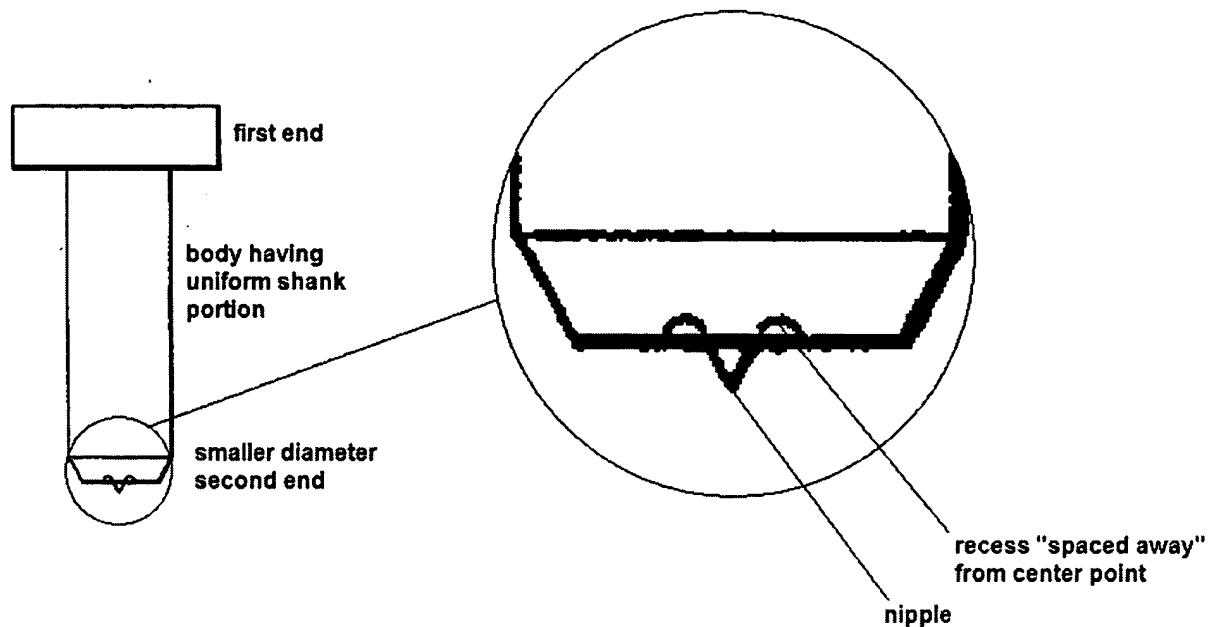
and near 39) disposed concentrically about a center point/area of said second end. The welding stud comprises a nipple (42) aligned with the axis of the stud, which is formed from the same material, and which spaces the stud from a workpiece (88) during a welding process (Figure 8).

Pertinent to claim 17, the grooves have a base and height being roughly equivalent as shown below:



Logan US-3,253,115

[10] Claims 1, 2, 6, 7, 18, 23, 24, 25, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Molyneux et al. US-3891,332.



Molyneux et al. US-3891,332

***Claim Rejections - 35 USC § 103***

[11] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[12] Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irimies US-5,493,833 in view of EP-1060822 (Figures j and m).

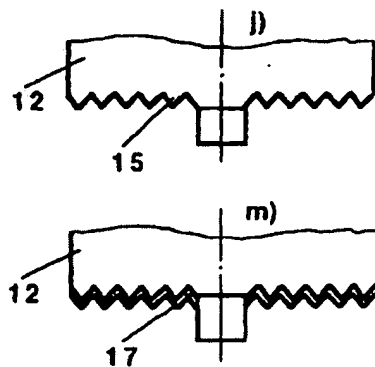
In short, Irimies teaches a welding stud having a first end having a flange and a smaller second end having a weld face and flux/powdered metal packet. The welding stud comprises a body having a solid, shank portion of generally uniform diameter. Irimies teaches a

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nipple/protrusion extending to separate the stud a distance from a workpiece during a welding process. Note that the entire second end of Irimies is to be welded.

However, Irimies fails to disclose expressly, a plurality of grooves and ridges to facilitate the welding process, in particular, said grooves being "spaced away" from a center portion of the weld end, and forming peaks, said grooves having a width and a height roughly equal to each other.

EP-1060822 suggests that it would be obvious to modify a weld end to comprise a plurality of peaks (15,17) and grooves (16) spaced from a center nipple (13) being "spaced away" from a center portion of the weld end and having a height to base width ratio of approximately one.



EP-1060822

Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art, to modify the second welding stud end taught by Irimies, by employing a plurality of grooves and ridges as suggested by EP-1060822, in order to improve welding efficiency, and/or as an art-recognized equivalent to the second welding end taught by Irimies.

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***Response to Arguments***

[13] Applicant's arguments with respect to the rejection of claims 1-29 have been fully considered but are moot in view of the new ground(s) of rejection necessitated by amendment. Applicant has successfully addressed all previous objections and rejections under 35 U.S.C. 112 second paragraph.

***Conclusion***

[14] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

See form PTO-892.

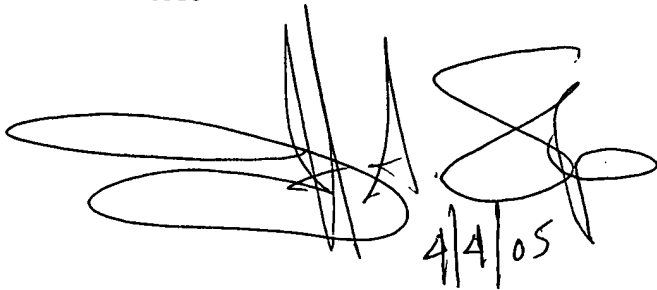
[15] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached 7:00 am - 5:30 pm Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

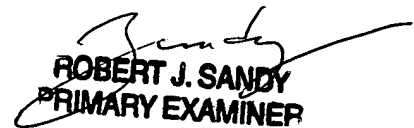
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JAS



Handwritten signature and date 4/4/05



Handwritten signature and stamp: ROBERT J. SANDY, PRIMARY EXAMINER